



United
States
Steel
Corporation

LORAIN-CUYAHOGA WORKS
1807 EAST 28TH STREET
LORAIN, OHIO 44055

February 28, 1985

US EPA RECORDS CENTER REGION 5



474166

Ohio Environmental Protection Agency
Division of Solid and Hazardous
Waste Management
P.O. Box 1049
Columbus, Ohio 43216-1049

Attn: Mr. Timothy P. Krichbaum

Gentlemen:

Attached is the Ground Water Monitoring Supplementary Annual Report form for U. S. Steel Corporation, Lorain Works Hazardous Waste Facility No. OH004222030, Landfill Site D-2. Please note that the facility currently is being monitored in accordance with the Groundwater Assessment Program submitted in August 1983 as modified in our December 21, 1983 letter to the Ohio EPA.

If you have any questions concerning this matter, please call me at (216) 277-2482.

Very truly yours,

R. C. Stinson
Environ. Process Engineer

RCS:cs

Attachment

RECEIVED

APR 15 1985

OHIO EPA-N.E.D.O.

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OHIO EPA

MAR 14 1985

ENV. & WASTE MGT.

ATTACHMENT I

SECTION 4:**REPORT RESULTS OF GROUND WATER QUALITY ASSESSMENT PROGRAM
OAC 3745-65-94(B)**

A groundwater Quality Assessment Plan was submitted to Ohio EPA in August, 1983. In response to comments provided by that agency, U. S. Steel Corporation (USSC) modified the plan as detailed in USSC's December 21, 1983 letter to Ohio EPA. Implementation of this plan was initiated by USSC early in 1984 with the first quarterly sampling in March of that year.

The quarterly 1984 sampling results of the implemented plan are provided in the SR-3 Report Forms (Attachment II). These data previously have been submitted to Ohio EPA on a quarterly basis.

During 1984, groundwater quality at both the upgradient well (DM-4) and the three downgradient wells (DM-1, DM-2, and DM-3) remained stable, with minor fluctuations in concentrations of individual parameters that most likely can be attributed to seasonal variations. No substantial deterioration in downgradient groundwater quality was observed during 1984.

As noted in the December 21, 1983 letter, USSC believes that determination of the rate and extent of migration of hazardous wastes/constituents is not justifiable due to: (1) the close proximity of the Black River, which intercepts the uppermost aquifer immediately downgradient of Site D-2; (2) downgradient concentrations of the hazardous constituents for which the wastes are listed (i.e. phenol, naphthalene and lead) are negligible; (3) groundwater migrating from the landfill will not measurably affect the water quality of the Black River and (4) the potential threat to human health or the environment posed by the migrating groundwater is diminishingly small given the large dilution upon entering the Black River and the fact that no downstream intakes for potable water exist on this river.

**SUPPLEMENTARY ANNUAL REPORT FORM: GROUND WATER
MONITORING INFORMATION**

SECTION 3:

**REPORT RESULTS OF THE EVALUATION OF GROUND WATER SURFACE
ELEVATIONS, AND A DESCRIPTION OF THE RESPONSE TO THAT EVALUATION,
WHERE APPLICABLE OAC 3745-65-94(A)(2)(c)**

Well Elevations in MSL by Sampling Date

Well I.D.	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
Date:	3/19/84	6/20/84	9/18/84	12/11/84
-4 (Upgradient)	620.21	620.04	619.53	619.64
-(Downgradient)	575.46	575.00	574.20	573.87
(Downgradient)	578.73	578.61	578.04	578.34
(Downgradient)	581.13	581.15	580.33	580.41

ANALYSIS

The monitoring wells satisfy the performance criteria outlined in OAC 3745-65-91(A) and Ohio EPA's Groundwater Monitoring Guidance Document:

- Wells are capable of yielding groundwater samples for analysis.
- The designated upgradient well (DM-4) is actually upgradient, based on the measured static water levels shown above.
- The upgradient well (DM-4) is not affected by the RCRA facility; i.e. concentrations of parameters for which the disposed wastes are listed (lead, phenols, naphthalene) are at or below analytical detection limits.
- The downgradient wells are located in the uppermost aquifer and are sufficient to detect migrating hazardous waste constituents.

**SUPPLEMENTARY ANNUAL REPORT FORM: GROUND WATER
MONITORING INFORMATION**

NOT APPLICABLE, FACILITY IS BEING MONITORED UNDER A SITE ASSESSMENT PROGRAM

SECTION 2:

Continued

Well ID	Date Sampled	TOH (mg/L)	TOC (mg/L)	pH S.U.	Specific Conductance uMHOS
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Mean
Variance
Background Mean
t-Value
Significance at .01
Yes (give value) or No

Well ID	Date Sampled	TOH (mg/L)	TOC (mg/L)	pH S.U.	Specific Conductance uMHOS
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Mean
Variance
Background Mean
t-Value
Significance at .01
Yes (give value) or No

**SUPPLEMENTARY ANNUAL REPORT FORM: GROUND WATER
MONITORING INFORMATION**

SECTION 2:

**REPORT STATISTICAL EVALUATION OF INDICATOR PARAMETERS (RESULTS OF
t-TEST) OAC 3745-65-94(A)(2)(b)**

FIRST SEMI-ANNUAL SAMPLING

	<u>NOT APPLICABLE, FACILITY IS BEING MONITORED UNDER A SITE ASSESSMENT PROGRAM</u>				
Well ID	Date Sampled	TOH (mg/L)	TOC (mg/L)	pH S.U.	Specific Conductance uMHOS

Mean
Variance
Background Mean
t-Value
Significance at .01
Yes (give value) or No

Well ID	Date Sampled	TOH (mg/L)	TOC (mg/L)	pH S.U.	Specific Conductance uMHOS
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Mean
Variance
Background Mean
t-Value
Significance at .01
Yes (give value) or No

SUPPLEMENTARY ANNUAL REPORT FORM: GROUNDWATER
MONITORING INFORMATION

SECTION 1:

REPORT VALUES OF INDICATOR PARAMETERS FROM SAMPLES COLLECTED DURING
BASELINE YEAR. OAC 3745-65-94(A)(2)(b)

Well ID	Date Sampled	TOH (mg/L)	TOC (mg/L)	pH S.U.	Specific Conductance uMHOS
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See SR-1 Report Forms for Baseline Year Monitoring Results (Attachment I)

**SUPPLEMENTARY ANNUAL REPORT FORM: GROUND WATER
MONITORING INFORMATION**

Applicability: This Supplementary Annual report Form should be completed by all facilities which are required by OAC 3745-65-90 to do ground water monitoring.

PART I: FACILITY IDENTIFICATION

U.S. Steel Corporation -
Facility Name: Lorain Works
Mailing Address: 1807 E. 28th Street
Lorain, OH 44055

County: Lorain
Facility Contact: Mr. R. C. Stinson
Phone Number: (216) 277-2482

Date of Submission: 2-28-85

HWFAB Permit # 02-45-0108

Check Applicable Process Codes
☐ S04, Storage in Surface Impoundment
☐ T02, Treatment in Surface Impoundment
☒ D80, Disposal in Landfill
☐ D81, Disposal by Land Application
☐ D83, Disposal in Surface Impoundment

Please note that the process codes listed above conform to those found in your Part A application, and not to the annual report form which you will receive in a separate mailing.

PART II: GROUND WATER MONITORING INFORMATION

Instructions

All facilities required to do ground water monitoring should have received a guidance document from the Ohio EPA (dated November 9, 1982) which includes information on performing the statistical tests and evaluating well elevation data. Please refer to this as you fill out the form.

Section 1: Include Indicator Parameter values from all RCRA wells. report values of upgradient well(s) first. Upgradient wells should have four replicate measures of each parameter for each sampling date. Please designate wells as upgradient (UP) or downgradient (DN); for example, W2, DN. If more than one measure of each indicator parameter was made from samples taken from downgradient wells, please report these as well. Attach additional pages as needed. Facilities which have not completed 4 quarters of data should briefly explain why.

Section 2: Only facilities which have completed 4 quarters of ground water monitoring data, plus the first semi-annual sampling of indicator parameters, need report anything in this section. Report upgradient well(s) first. Put "NOT APPLICABLE" under the section heading if appropriate.

Section 3: Report well elevations in Mean Sea Level. Identify well elevations by well number and location (upgradient, downgradient). Record the dates that elevations were taken under each quarterly heading. Please attach well logs to this form.

Section 4: Summarize efforts to determine rate and extent of migration of hazardous waste constituents in the ground water, and the concentrations of the hazardous waste or hazardous waste constituents in the ground water. Report results of analysis. Put "NOT APPLICABLE" under the section heading if appropriate.